Address of Welcome by F. L. Rosemond.

Mr. President and Gentlemen of the Institute:

I have the honor, which includes the pleasure, of expressing the welcome which the 5,000 people of Cambridge cordially extend to the Ohio Institute of Mining Engineers. We recognize in you not only scientific men, but those who practice the application of mechanical and physical science in its most difficult form,—men whose business it is to locate and devise and operate ways for producing mineral wealth—to forge the keys for unlocking Nature's deep and hidden storehouses of riches—to work out in underground darkness the problems which other engineers solve in the bright sunlight. It is an unmixed welcome; we are proud of the fact that you have considered Cambridge a fit and acceptable place for your session, and we are glad to see you here. You may have heard of the old lady, more candid than complimentary, who said that she was always very glad to have Mrs. Blank visit her because Mrs. Blank didn't stay long. Let me hasten to assure you that this welcome contains no element of that kind; that we trust you will be unwilling to depart when the end of your meeting comes, and that you will stay longer with us.

Perhaps you want to know what sort of a place this is to which you are welcomed. Well, it is our opinion, and surely we are the people who ought to know, that, as they would say farther west, "you have struck a rattling good town." I hope you will not think it immodest for us to talk in that way about it. It would be decidedly so for the people of any other town to do so as to the place of their abode, that much we will readily concede, but in our case of course it is nothing but frankness and candor.

Perhaps you want specifications, which is doubtless a very frequent want with you. Very well, not to speak of our wonderful culture and intelligence and morality, which, luckily for you, I have not time to enlarge upon, and our advanced civilization in every respect, particularly under the Dow law, let me begin by saying that the immediate vicinity of Cambridge yields, in the greatest abundance a bituminous coal which is the best for steam purposes which the State affords. One of the mines now in operation along the B. & O. road east of town has been a producing mine for thirty years or more, and on both the rail-

roads which cross here, within a half dozen miles of town, are mines having a daily capacity of 2,000 tons or more with increase in prospect. They cut on a vein of uniform quality, found sometimes by drifting and sometimes by shallow shafting, varying in thickness from four to eight feet. In Jackson and Richland Townships several thousand acres of this coal, owned by one company, has been demonstrated by drilling to be from 5 to 5½ feet thick. This coal is free from the slate bands which characterize the coal of other portions of the State; burns more freely and brightly than the block coal of Southern Ohio; and is without the tendency to cake that marks the Pittsburgh coal, which has its western limit in the eastern part of this County. In addition it is, as a rule, very free from sulphur. The company operating at Trial Run, near Byesville, has for the last five years used their mine water in their boilers, running night and day, with perfect safety. Their manager reports that the boilers have had as yet very little repair and no patching, and he thinks that no other operator could make a like showing. To be seen at its best this coal should be seen in use near home. A test at the pump-house of the water works system in Mt. Vernon, Ohio, in which a car-load of each of several varieties of Ohio steam coal were tried, resulted in convincing the operator that in actual results the Cambridge coal was superior to the coal ranking next by about 15 per cent. The very characteristics which make this such a desirable steam coal, however, unfit it for long distance shipping or much handling.

Found along with this coal, or close to it, almost uniformly, are deposits of fire clay of varying thickness. Near Kimbolton various deposits have been found, one being under an outcrop of coal in the back of Wills Creek and 13 feet thick. Similar deposits are known almost all over the county. On the lands of what used to be the property of the Cambridge Coal Co., a few miles east of town, is an outcrop of this clay, low on the side of the hill facing the railroad, about four feet thick, as I recollect it. It was tried experimentally by a local potter a couple of years ago, with most satisfactory results. He pronounced it quite as good as the Roseville clay and very nice to handle. Your President informs me that excellent fire clay could be found anywhere about here by shafting to about 80 feet.

Excellent brick clay abounds here, and has been utilized for years. The fire clay has not been put to use, however, doubtless through a lack of appreciation of the value of the deposit.

From Tuscarawas County on the north the Black Band iron ore runs over on us, and almost on the line between the counties near Post Boy station, is being mined by a progressive com-

pany. Close to this, in Wheeling Township, have been found for years small masses of lead ore, the carbonate, one nugget of which a friend gave me not long since. The residents of that community have faith that there are more valuable deposits of lead beneath them, but the correctness of their view has never been verified.

In the southern part of the county, near Senecaville, is a deposit of limestone that has been tested for furnace use by several furnaces in neighboring cities and pronounced all that could be desired, and particularly valuable because of the small percentage of phosphorous which it contains. Near Cumberland a sort of stone has been quarried which, for lithographic purposes, is pronounced unsurpassed. Except some Berea stone in the steps and pavement the stone in our court house was quaried in this county, near Kimbolton and Cumberland, and speaks for itself.

The thing, however, which most attracts the attention of a visitor to Cambridge, and, no doubt, the product which will most interest you, is the Natural Gas, so-called, though why it is any more natural than a score of other gases, is not clear. The town is in the field explored, which includes territory running from a point in Westland Township about eight miles south to a point in Monroe township about sixteen miles north, and to a point three miles east. No paying quantity of gas was found south or west of town, but in all other directions a good flow was secured and continues. The first well was put down in 1886, just adjacent to the town on the north, and yields both gas and a valuable heavy oil. From this and other wells lying immediately by the town, The Cambridge Light and Fuel Co. supplies a large number of consumers, while from their field north of town, eight miles distant, The Southeastern Natural Gas Co. pipes in a large supply. As to the details of geological structure which make this production possible here, I have neither the ability nor time to speak. You have with you a distinguished geologist whose exhaustive researches concerning this and other Ohio gas-fields qualify him to speak with authority, and with the result of them you are all more or less familiar. Suffice it to say that at this point have been found all the essentials of a gas producing territory, as they are now known, the distinctive one being what is known as the Cambridge anti-clinal, the landmark of which is Tunnel Hill. South and west of this the field yields oil but no gas; north and east it affords an abundance of gas. Except the wells of the Southeastern company all strikes have been made on the slope of the arch, while theirs are along the line of its crest at a point where it is 90 feet higher than it is here. The gas field is supposed to be limited to the

crest of this formation. As your program includes visiting the gas wells, and as you will then have opportunity to satisfy all inquiries by both conversation and observation, it is unnecessary for me to do more than dismiss this subject with the assertion, which the developments seem to warrant, that the Cambridge field, as now opened, yields a supply of gas sufficient to meet a demand many times greater than that which is being made upon it, and that there is an immeasurable quantity of gas in addition where this is coming from. If any investigator of this field fails to find there the guaranty of continuance which he demands he need but remember that in this field there is no risk of exhaustion which is not common to all, and that if it ever does fail thousands of acres of coal lie at our doors to help us with their energy and cheer us with their warmth.

For eighty years Cambridge has sat upon her pair of hills, basking in the sun of contentment. Sat she has, surely enough, or long since she would have availed herself of the magnetism of her advantages and natural resources to have drawn hither willing capital and progressive labor, and to have set above her spires a cloud of smoke as a fadeless banner of prosperity and enterprise. Fadeless except for natural gas. Heretofore what testimony the earth has given has been yielded slowly, every fragment dug by pick and lifted by powder. Now to keep her silent her lips must be locked by iron and steel. She cannot contain herself. She actually roars it forth, with a sound like the magnified rushing of a mighty wind. You hear it whispered from every chimney-top; you see it flung in boastful but harmless flames against the sky. The old girl has really begun to put on airs, not like a blushing maiden, blushing for lack of other mode of expression, but like a matured woman, conscious of her powers and ready to skillfully put them to the test.